

MATHEMATICAL MEASURING OF MORTALITY FOR RAYA TOWN DISTRICT MATHURA, UTTAR PRADESH

PRAHLAD SINGH¹

Department of Mathematics, Govt Model College Kursanda Hathras, Uttar Pradesh, India

ABSTRACT

Analysis of present demographic conditions can benefit from the study of mortality. The study of mortality is crucial to the public health administration since the population's cross-classification by age, sex, and cause of death is the primary factor in the development, execution, and assessment of public health initiatives. Statistics on death are also derived from insurance companies' policies. Using data from a survey of 300 sample families in Raya town Mathura UP, the current research attempts to estimate the death rates among the population of Raya town Mathura Distt, Mathura using CDR, IDR, and ASDR.

KEYWORDS: Mortality, Population, IDR, CDR, ASDR

One of the population's components, along with migration and fertility, is death. This factor has been crucial in shaping population dynamics. Compared to Hindus from lower castes, Christians and Muslims have lower mortality rates. India's mortality disparities are caused by a number of reasons. The United Nations and the world Health Organisation have defined death as follows," Death is the permanent disappearance of all evidence of life at any time after birth has taken place.

Raya is a Nagar Panchayat city in the Mathura district of Uttar Pradesh. The 14 wards that comprise the city of Raya hold elections every five years. The Raya Nagar Panchayat has 21,344 residents, with 11,202 men and 10,142 women, according to a 2011 Census India estimate. The precise mortality figures for Raya are not known due to the absence of detailed vital statistics for each Nagar Panchayat. However, the Sample Registration System for Uttar Pradesh's metropolitan areas shows that the crude death rate was about 6.2 per thousand people.

Table 1: Raya Town Religion Data

S.No.	Religion	Percentage
1	Hindu	68.89%
2	Muslim	30.10%
3	Christian	0.20%
4	Sikh	0.32%
5	Buddhist	0.02%
6	Jain	0.02%
7	Others	0.00%
8	No Religion	0.45%

METHODOLOGY

In order to accomplish this goal, information on the number of fatalities in each household was gathered from all 300 sample households chosen from Raya town, Mathura City, Uttar Pradesh, using an interview schedule in March-2017 to Feb 2018.

OBSERVATION AND RESULTS

In order to have a broad grasp of the mortality process, it is important to describe the three measurements that are used in the analysis of mortality. These criteria have been addressed based on a survey conducted in March 2017-Feb 2018 among 300 sample families in Raya town, which has a population of 2145.

The total live births was 72 and death were 35 calculated. The crude birth rate CBR and Crude death rate CDR were estimated respectively 33.57 and 14.45 per thousand giving the natural increase 1.9%, higher than these measures respectively 26.7 and 7.2 per thousand for U.P in 2011

In the survey total number of death below age one year during March 2017 to Feb 2018 was 6. Consequently Infant Death Rate (IDR) was found 80.4. The corresponding for death rate for India in 2011 as 7.1per thousand.

Age Specific Death Rate (ASDR)

ASDR may be defined as the number of deaths of persons of given age per thousand during a given year. Table-2 and figure1 represent ASDR for different age groups.

¹Corresponding author

Table 2: Death during 2018

Age group	Total Population	Total Death	Death Rate per thousand
0 to 01	72	6	83.3
01 to 04	290	3	10.3
05 to 09	280	1	3.5
10 to 19	271	3	11.1
20 to 29	272	1	3.6
30 to 39	253	2	7.9
40 to 49	241	2	8.3
50 to 59	219	5	22.8
60 to 69	198	8	40.4
Above 70	49	4	81.6

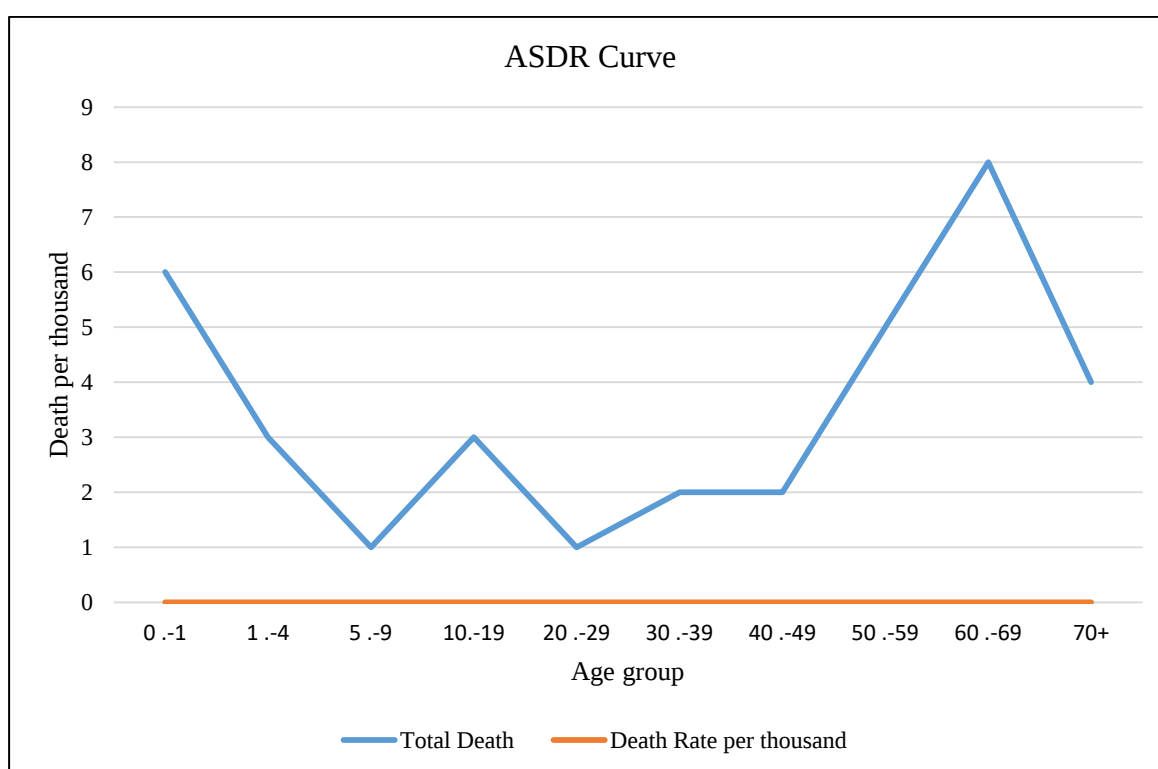


Figure 1: ASDR Curve

The age-specific death rate for Raya town in March 2017-Feb 2018 is shown in Table 2. It can be seen that compared to other age groups, the age-specific death rate is higher at 0–1. For the age group of four, the death rate abruptly declines, and it then progressively declines until the age group of twenty to twenty-nine. The age range 20–29 has the lowest age-specific death rate. Age-specific death rates start to climb at age 30 and continue to do so until age 50, after which they continue to rise. Additionally, it can be seen that the age-specific mortality curve in Figure 1 is U-shaped, indicating that mortality is quite high at both the extremities of life span infancy and old age.

The percentage of deaths in India by major cause category from 2015 to 2017 is shown in Table 3. Non-communicable diseases account for 52.8 % of all deaths in the nation, while communicable, maternal, perinatal, and nutritional problems account for another 22% of deaths. When it comes to non-communicable diseases and injuries, the proportion of male fatalities is higher than that of female deaths. However, when it comes to symptoms, signs, and ill-defined ailments, as well as communicable, maternal, perinatal, and nutritional conditions, the proportion of female deaths is higher than that of male deaths. Females are more likely than males (11.5%) to die from symptoms, signs, and ill-defined diseases (18.5%).

Table 3: Distribution of Deaths by Major Cause Groups in India: 2015-2017

Cause of Death	Number and Percentage Proportion of Death					
	Male	Male (%)	Female	Female (%)	Person	Person (%)
Non-Communicable diseases	40334	54.1	25958	50.9	66292	52.8
Communicable, maternal, perinatal and nutritional conditions	16265	21.8	11353	22.2	27618	22.0
Injuries	9383	12.6	4266	8.4	13649	10.9
Symptoms, signs and III-defined conditions	8599	11.5	9465	18.5	18064	14.4

Sources: Sample Registration System (SRS)-Cause of Death in India 2015-2017

CONCLUSION AND SUGGESTION

We have noticed that the population of Raya Town, Mathura City, has unusually high CDR and IDR. This could be because to inadequate medical facilities, low income, and a lack of education. The ASDR Curve is U-shaped, meaning that high mortality occurs at both the extremes of life span—infancy and old age. Non-communicable diseases account for the largest percentage of deaths in India, according to the classification of deaths by causes of death. It could be advised to use the medical and educational resources available here. Humanity will have a healthy and fulfilling life span if these elements are improved.

REFERENCES

- Census of India 2011.
- Principal of population studies by Asha A. Bhinde and Tara Kanitkar 14th edition 2001.
- Sample Registration System (SRS)-Cause of Death in India 2015-2017.
- United Nations: Principles for a vital statistics system, statistical papers series M No. 19, new York:1953, page 6.
- United Nations: Demography Year Book, 2011. Table 15, New York, 2011.
- Vaidyanathan K.E., Some Indiees of Differentials Mortality in India: in K.E. Vaidyanathan (Ed), study in Mortality in India, op, cit. page 152.